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Emad El Haje

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1690

7590
Barnes & Thornburg
Suite 900
750 17th Street, NW
Washington, DC 20006

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EMAD EL HAJE

Appeal 2008-1268
Application 10/774,451
Technology Center 1600

Decided: June 16, 2008

Before DONALD E. ADAMS, LORA M. GREEN , and
JEFFREY N. FREDMAN, *Administrative Patent Judges*.

ADAMS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal under 35 U.S.C. § 134 involves claims 1-20. The Examiner has objected to claims 21 and 22, the only remaining pending claims, which are not before us on appeal¹ (Ans. 8-9). We have jurisdiction under 35 U.S.C. § 6(b).

¹ The objections relate to petitionable rather than an appealable matter. Accordingly, we do not consider the objections as part of our deliberations.

INTRODUCTION

The claims are directed to a gum packing assisting tool for forcing soft gum tissue of a patient around a tooth (claims 1-14) and a kit of a plurality of gum packing tools (claims 15-20). Claims 1, 3, 5, and 14 are illustrative:

1. A gum packing assisting tool for forcing soft gum tissue of a patient around a tooth comprising:
an endless strand of material,
the endless strand being made of a material which is easily sterilized,
the endless strand being made of a flexible dense material which stretches when under tension and which returns to its original shape when the tension is released, and which admits of few, if any, pockets for housing germs and contaminants therein,

wherein the length of the endless strand is less than the circumference of tooth around which soft gum is to be forced around, so that the endless strand can be tensioned to allow the endless strand to be placed over and encircle the tooth and to tightly grip the edges of the tooth when the tension is released, and

wherein the endless strand tool has portions of its cross-section to be of circular configuration so as to facilitate rolling downward of the endless strand over the sides of a tooth to the gum line of the patient.

3. The gum packing assisting tool of Claim 1 wherein the cross-section of the endless strand tool varies along its length.

5. The gum packing assisting tool of Claim 1 wherein a portion of the endless strand tool has at least one projecting tab to allow a dental

practitioner to grip and pull the tab to elongate the endless strand tool to permit easy removal of the endless strand tool from around a tooth.

14. The gum packing tool of Claim 1 wherein the endless tool is biodegradable.

The Examiner relies on the following prior art references to show unpatentability:

Robertson	US 3,238,620	Mar. 8, 1966
Brosius	US 5,829,974	Nov. 3, 1998
Mahoney et al.	US 5,976,439	Nov. 2, 1999

The rejections as presented by the Examiner are as follows:

1. Claims 1, 2, 13, 15, and 16 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Robertson.
2. Claims 1, 3-5, 7-9, 11, 12, 15, and 17-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Brosius.
3. Claims 3-12 stand rejected under 35 U.S.C § 103(a) as unpatentable over the combination of Robertson and Brosius.
4. Claim 14 stands rejected under 35 U.S.C § 103(a) as unpatentable over the combination of Robertson and Mahoney.

We affirm.

DISCUSSION

Findings of Fact (FF):

1. Robertson teaches a dental appliance in the shape of an endless ring or resilient material of uniform cross sectional shape (Robertson 1: 17-19).

2. Robertson teaches that the dental appliance may be impregnated with a vaso-constrictor to control or restrict capillary bleeding from the gum tissue, when the appliance is inserted between the tooth and surrounding gum tissue (Robertson 1: 61-68).

3. Appellants' Specification discloses that "it would be desirable to have the dense flexible strand tool coated with either an antiseptic, vaso-constrictor and/or an analgesic. These coatings would release medicines and/or pain killers to the area of the gum line" (Spec. 8: 8-10). Accordingly, Appellants' Specification defines medicines as including vaso-constrictors.

4. Robertson teaches that the dental appliance is composed of "resilient materials which will retain their pliancy in use, such as hard and soft leathers" (Robertson 2: 49-51).

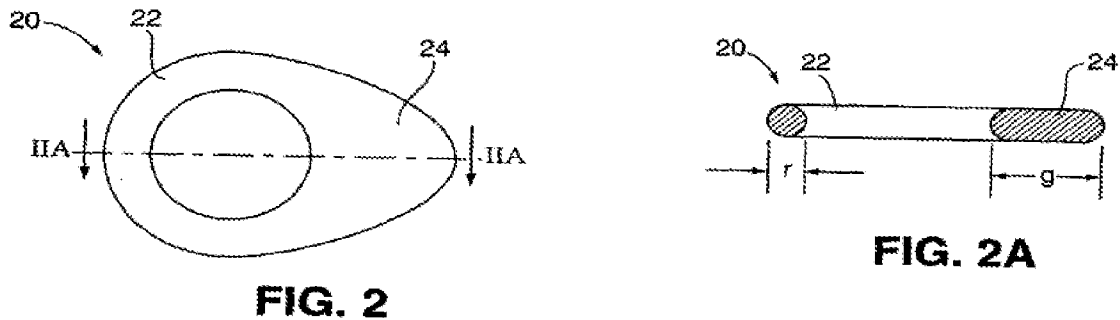
5. Robertson teaches that the dental appliance is in the form of a circular ring which is manufacturable in various diameters and thicknesses (Robertson 2: 46-48). As the Examiner explains a "cross-section sliced through a plane of the tool" will result in a circular configuration (Ans. 3). In addition the Examiner explains that a cross-sectional area of the tool throughout its length is substantially constant (*id.*).

6. Robertson's appliance is designed to "snugly engage the neck portion of the tooth when inserted between the tooth and surrounding gum tissue" (Robertson 1: 64-66).

7. Robertson teaches that in use the dental practitioner selects an appliance that "snugly encircle[s] the outer end of the tooth . . . , slips the appliance . . . over the tooth . . . and tucks the appliance . . . between the gum . . . and the neck . . . of the tooth" (Robertson 2: 60-66).

8. Brosius teaches a “ligature including an elastic ring member with a grip extension protruding therefrom” (Brosius 1: 63-65).

9. Brosius’ FIG. 2 and FIG. 2A are reproduced below:



“FIG. 2 is a plan view of a ligature according to an embodiment of the present invention” (Brosius 2: 66-67). “FIG 2A is a sectional elevation taken generally along line IIA-IIA of FIG. 2” (Brosius 3: 1-2).

10. Brosius teaches that the ligature “is preferably a unitary element molded from a high-strength elastomeric material of a conventional type suitable for orthodontic applications” (Brosius 3: 38-40). According to the Examiner Brosius’ device will stretch under tension and contract with the tension is relaxed (Ans. 4).

11. Brosius teaches that

as illustrated in **FIG. 2A**, the ring **22** has a dimension in a radial direction referred to herein as a cross-sectional thickness r . At the grip member **24**, however, the ligature **20** has a greater dimension in the radial direction, referred to herein as a cross-sectional thickness g . Preferably, the cross-sectional thickness g of the ligature **20** for the grip extension **24** is at least 1.5 times the cross-sectional thickness r of the ligature **20** for the ring member **22**.

(Brosius 3: 57-65.)

12. Brosius teaches that

[t]he ring member **22** alone may be sized similarly to that of a conventional ligature . . . i.e., having an outer diameter of about 0.110-0.125 inches, and having an inner diameter corresponding to that of a similarly sized conventional ligature. . . . As will be readily appreciated, the ligature **20** may also be made in other sizes as needed.

(Brosius 3: 44-49).

13. Brosius teaches “[t]he grip extension **24** advantageously provides a convenient means by which the ligature **20** can be gripped for stretchable manipulation of the ring member **22**” (Brosius 4: 1-3).

14. Mahoney teaches alginate rope products that are suitable for use as gingival retraction cords (Mahoney 5: 18-20).

15. Mahoney teaches that “alginates being natural materials show considerable variety but are characterized [sic] in being block copolymers, the individual monosaccharide [sic] units being arranged into groups as blocks of mannuronic (M) and guluronic (G) residues” (Mahoney 4: 34-37).

16. Mahoney teaches that “[i]n use high M containing dressings can dissolve in wound exudate allowing for the dressings to be removed by washing out the wound with sterile saline solution, water or the like” (Mahoney 5: 53-56).

17. Mahoney teaches that “[t]he employ of alginate fibres is often desirable over other conventional materials employed in surgical dressings, such as cotton and the like, in view of the superior biocompatibility properties of alginates” (Mahoney 1: 11-14).

Anticipation:

1. Claims 1, 2, 13, 15, and 16 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Robertson.

In addition to the teachings of Robertson set forth above (*see* FF 1-6), the Examiner finds that Robertson's appliance is made of an endless strand of material "which stretches under tension and which returns to its original shape when the tension is released" (Ans. 3).

In response, Appellant separately argues claims 1 and 13. Therefore, we limit our discussion to representative claims 1 and 13. 37 C.F.R. § 41.37(c)(1)(vii). Claims 1, 2, 15, and 16 will stand or fall together with claim 1. Claim 13 will stand or fall alone.

Claim 1:

Appellant asserts that the preamble of claim 1 "is written in means plus function format . . . [and] requires '[a gum packing assisting] tool for forcing soft gum tissue of a patient around a tooth'" (App. Br. 7). We disagree. As the Examiner explains, the language of claim 1 does not invoke 35 U.S.C. § 112, sixth paragraph (Ans. 5). We agree. To the contrary, the preamble of claim 1 sets forth the intended use of the claimed invention "for forcing soft gum tissue of a patient around a tooth" (Claim 1). The body of claim 1 defines a structurally complete invention. Where, as here, "a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation." *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997). Accordingly, we disagree with Appellant's assertion that the Examiner erred by not giving patentable weight to Appellant's statement of

intended use as it appears in the preamble of Appellant's claim 1 (App. Br. 7).

Appellant asserts that "[t]he Examiner is wrong in stating that in Robertson 'the strand tool has portions of its cross-section to be of circular configuration'. The Robertson disclosure shows the cross-section to be rectangular or square" (App. Br. 6). According to Appellant "[a] slice through a plane of Robertson would produce a hollow cylinder not a 'circular configuration' as claimed" (Reply Br. 1). We are not persuaded. Appellant admits that a cross section of Robertson's device will produce a hollow cylinder. A hollow cylinder has a circular configuration (FF 5). The claim does not require that a further cross-section of the device be made along the "y-axis" to produce an "arcuate" geometry. Accordingly, we are not persuaded by Appellant's assertion.

We are also not persuaded by Appellant's assertion that a "[r]ing form" will not "facilitate rolling downward of the endless strand over the sides of a tooth to the gum line of the patient" (*id.*). See FF 7. There is no evidence on this record to suggest that the configuration of Robertson's appliance would not facilitate rolling downward of the endless strand over the sides of a tooth to the gum line of the patient as required by claim 1.

We are also not persuaded by Appellant's assertion that "[t]he Examiner is wrong in stating 'Robertson discloses a method of packing soft tissue gum around a tooth'" (App. Br. 6). Claim 1 is directed to a tool not a method. For the reasons set forth herein, we agree with the Examiner that Robertson teaches a tool that meets the requirements of the tool as set forth in claim 1.

Appellant asserts that Robertson's appliance is "not 'easily sterilized'" (App. Br. 7; Reply Br. 2). Appellant does not, however, identify any evidence on this record to support this assertion. Accordingly, we are not persuaded. It is well settled that argument by counsel cannot take the place of evidence. *In re Cole*, 326 F.2d 769, 773 (CCPA 1964); *In re Geisler*, 116 F.3d 1465, 1471 (Fed. Cir. 1997).

Appellant asserts that "Robertson's leather has pockets especially since Robertson desires his ring 6 to be 'impregnated' with a vaso-constrictor...to prevent bleeding . . . To IMPREGNATE something, you have to have openings" (App. Br. 7). We are not persuaded. Appellant identifies no evidence on this record to support this assertion. Further, claim 1 does not exclude the presence of "pockets", to the contrary claim 1 requires only that the device has "few, if any, pockets for housing germs and contaminants therein" (Claim 1). Further, Appellant has not established that, even if Robertson's device has pockets, the number of pockets present in Robertson's device would exceed those encompassed by claim 1.

For the foregoing reasons we affirm the rejection of claims 1, 2, 15, and 16 under 35 U.S.C. § 102(b) as being anticipated by Robertson.

Claim 13:

Appellants assert that "[t]he Examiner is wrong in stating the ring of Robertson 'has a medicinal coating'" (App. Br. 6). According to Appellants a "'vaso-constrictor' is not a medicine" (*id.*). We are not persuaded (*see* FF 3). As the Examiner explains a "vasoconstrictor is known in the art to function as a coagulant or decongestant which may alleviate irritation and discomfort to a person and be construed to alleviate 'pain'" (Ans. 7). As

Appellant has not refuted this assertion of the Examiner, we are not persuaded by Appellant's argument to the contrary. Regarding the term "coating" the Examiner points out that Robertson teaches that the "dentist may dip the said gum retracting appliance in a hemostatic or vaso-constrictive solution of his preference prior to placing on the tooth, [and/or] may further **apply** a vaso-constrictive to the ring after it has been placed between the gum and the cervical portion of the tooth" (Ans. 7). In our opinion, either of these procedures will "coat" the appliance with a medicinal agent.

For the foregoing reasons we affirm the rejection of claim 13 under 35 U.S.C. § 102(b) as being anticipated by Robertson.

2. Claims 1, 3-5, 7-9, 11, 12, 15, and 17-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Brosius.

The Examiner finds that Brosius anticipates the claimed invention (FF 8-13; Ans. 4). In response, Appellant argues the claims as they relate to the following two groups: I. 1, 3, 4, 7-9, 15, and 17-20; and II. 5, 11, and 12. Therefore, we limit our discussion to representative claims 1 and 5. 37 C.F.R. § 41.37(c)(1)(vii). The claims in each group will stand or fall together.

Claim 1:

Appellant asserts that the preamble of claim 1 "is written in means plus function format . . . [and] requires 'a gum packing assisting tool for forcing soft gum tissue of a patient around a tooth'" (App. Br. 8). For the reasons set forth above, we disagree. Accordingly, we disagree with Appellant's assertion that the Examiner erred by not giving patentable

weight to Appellant's statement of intended use as it appears in the preamble of Appellant's claim 1 (App. Br. 8).

We are also not persuaded by Appellant's assertion that while Brosius provides the dimension of the ligature it is not related

to a tooth circumference wherein "the length of the endless strand is less than the circumference of tooth around which soft gum is to be forced around" as claimed, much less so "the endless strand can be tensioned to allow the endless strand to be placed over and encircle the tooth and to tightly grip the edges of the tooth when the tension is released". Nor does Brosius provide for a cross-section of circular configuration to facilitate rolling downward of the endless strand over the sides of a tooth to the gum line of the patient as claimed in Claim 1.

(App. Br. 8-9.) We are not persuaded.

As the Examiner explains "[i]f the prior art structure is capable of performing the intended use, then it meets the claim" (Ans. 7). Here Appellant provides no evidence that the dimensions of Brosius' ligature are different than the dimension of the claimed device. Further, Appellant provides no evidence on this record to support a conclusion that the functional limitations set forth in Appellant's claim 1 distinguish Brosius' device from the claimed device. A patent applicant is free to recite features of an apparatus either structurally or functionally. *See In re Swinehart*, 439 F.2d 210, 212 (CCPA 1971) ("[T]here is nothing intrinsically wrong with [defining something by what it does rather than what it is] in drafting patent claims."). Yet, choosing to define an element functionally, *i.e.*, by what it does, carries with it a risk. As our predecessor court stated in *Swinehart*, 439 F.2d at 213:

where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the

claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on.

This Appellant has not done. Accordingly, we find no error in the Examiner's prima facie case of anticipation.

We are also not persuaded by Appellant's assertion that while Brosius provides the dimension of the ligature it is not related

to a tooth circumference wherein "the length of the endless strand is less than the circumference of tooth around which soft gum is to be forced around" as claimed, much less so "the endless strand can be tensioned to allow the endless strand to be placed over and encircle the tooth and to tightly grip the edges of the tooth when the tension is released". Nor does Brosius provide for a cross-section of circular configuration to facilitate rolling downward of the endless strand over the sides of a tooth to the gum line of the patient as claimed in Claim 1.

(App. Br. 8-9.) We are not persuaded.

As the Examiner explains "[i]f the prior art structure is capable of performing the intended use, then it meets the claim" (Ans. 7). Here Appellant provides no evidence that the dimensions of Brosius' ligature are different than the dimension of the claimed device. Further, Appellant provides no evidence on this record to support a conclusion that the functional limitations set forth in Appellant's claim 1 distinguish Brosius' device from the claimed device. Accordingly, we find no error in the Examiner's prima facie case of anticipation.

For the foregoing reasons, we affirm the rejection of claim 1 under 35 U.S.C. § 102(b) as being anticipated by Brosius. Claims 3, 4, 7-9, 15, and 17-20 fall together with claim 1.

Claim 5:

According to Appellant, “Brosius does not provide a teaching of using a tab (or plural tabs) to elongate the endless strand tool to permit easy removal of the endless strand tool from around a tooth” (App. Br. 9). We disagree.

Brosius teaches a tab, or “grip extension” that is used to grip, stretch, and thereby manipulate the endless strand tool (FF 13). There is no evidence on this record to suggest that this “grip extension” would not function in the same manner to remove the tool from a tooth upon which it has been placed.

For the foregoing reasons, we affirm the rejection of claim 5 under 35 U.S.C. § 102(b) as being anticipated by Brosius. Claims 11 and 12 fall together with claim 5.

Obviousness:

3. Claims 3-12 stand rejected under 35 U.S.C § 103(a) as unpatentable over the combination of Robertson and Brosius.

The claims have not been separately argued and therefore stand or fall together. 37 C.F.R. § 41.37(c)(1)(vii). Claim 3 is representative.

Based on the combined teachings of Robertson and Brosius the Examiner concludes that “[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the tool of Robertson to have the configuration(s) of Brosius in order to be able to facilitate installation of the tool in view of Brosius” (Ans. 4). We find no error in the Examiner’s prima facie case of obviousness.

Appellant asserts that Robertson and Brosius are nonanalogous art (App. Br. 9). We disagree. In *ICON*, the Federal Circuit explained that

“A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem.” *In re Clay*, 966 F.2d 656, 659 (Fed.Cir.1992). In other words, “familiar items may have obvious uses beyond their primary purposes.” *KSR Int'l Co. v. Teleflex, Inc.*, --- U.S. ----, 127 S.Ct. 1727, 1742, 167 L.Ed.2d 705 (2007). We therefore have concluded, for example, that an inventor considering a hinge and latch mechanism for portable computers would naturally look to references employing other “ housings, hinges, latches, springs, etc.,” which in that case came from areas such as “a desktop telephone directory, a piano lid, a kitchen cabinet, a washing machine cabinet, a wooden furniture cabinet, or a two-part housing for storing audio cassettes.” *Paulsen*, 30 F.3d at 1481-82.

In re ICON Health and Fitness, Inc., 496 F.3d 1374, 1379-1380 (Fed. Cir. 2007).

Appellant recognizes, both Robertson and Brosius deal with human teeth (App. Br. 9). As the Examiner explains, “it is the added feature of the projecting tabs or widened portions on the ‘tool’ that is taught by Brosius which is applied to modify the ‘tool’ of Robertson” (Ans. 7). There is no evidence on this record to suggest that one working in the dental field would not have recognized that the grip extension on the endless strand tool taught by Brosius could not reasonably be applied to the endless strand tool of Robertson to facilitate the insertion and removal of the tool from a tooth. Accordingly, we are not persuaded by Appellant's assertion to the contrary.

We are also not persuaded by Appellant's assertion that “one skilled in the art would clearly recognize that having a rounded cross-section as the

cross-section for scraping ring 6 of Robertson would lead to an inferior and unworkable device, since a rounded cross-section wouldn't scrape away tissue from the root of a tooth" (App. Br. 9). According to Roberston

[i]n using the said appliance, the dental practitioner selects a ring 6 of a diameter to snugly encircle the outer end of the tooth 8 which has been prepared for the taking of an impression, slips the appliance 6 over the tooth 8 and tucks the appliance 6 between the gum 10 and the neck 12 of the tooth 8 with the usual dental tools. Because of the resilient composition of the said appliance 6, the device will snugly enclose the outer end of the tooth 8 but is readily tucked into gum retracting position encircling the neck portion 12 of the tooth 8, between the tooth 8 and the gum 10 because of the resilient nature of the ring.

(Robertson 2: 61-72; FF 6 and 7.) Notwithstanding, Appellant's assertion to the contrary, in practice Robertson's device does not require that tissue be scraped away from the root of a tooth. Accordingly, we are not persuaded by Appellant's assertion that the combination of Robertson and Brosius would lead to an inoperative, interferer and/or unworkable device (App. Br. 9).

Accordingly, we affirm the rejection of claim 3 under 35 U.S.C § 103(a) as unpatentable over the combination of Robertson and Brosius. Claims 4-12 fall together with claim 3.

4. Claim 14 stands rejected under 35 U.S.C § 103(a) as unpatentable over the combination of Robertson and Mahoney.

Based on the combined teachings of Robertson and Mahoney the Examiner concludes

[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the tool of

Robertson to be biodegradable as in Mahoney et al. in order to use a tool that is biocompatible and easier to use by eliminating step of removal and/or disposal.

(Ans. 5).

Appellant asserts that “the alginate products of Mahoney et al. are such that the fibers become stronger and are not susceptible to breaking down in a human cavity and thus are the opposite of being biodegradable” (App. Br. 10). We disagree. *See* FF 16.

Appellant asserts that biocompatibility and biodegradability are not concerns addressed in Robertson (App. Br. 10). We are not persuaded. Mahoney teaches that the biocompatibility properties of alginates are superior to other materials used in surgical dressings (FF 17). Therefore, while it may be true that Robertson does not address biocompatibility issues, a person of ordinary skill in this art at the time the invention was made was concerned with issue of biocompatibility. As to biodegradability, there are a number of reasons why biodegradable products are preferred over non-biodegradable products. In this regard, the Examiner notes that biodegradable products are preferred due to the ability to eliminate the need to remove and dispose of the product (Ans. 5). A person of ordinary skill in this art would likewise appreciate that biodegradable products are environmentally preferred.

Accordingly, while Appellant asserts that “Robertson teaches removing its ring in THREE MINUTES after insertion” (App. Br. 10) and therefore biodegradability is not an issue for Robertson, we find that the disposal of a biodegradable product is environmentally preferred over the

disposal of a non-biodegradable product. Accordingly, we are not persuaded by Appellants' argument.

Lastly Appellant asserts that "it is not clear that the Mahoney et al. material could be fashioned into a stretchable ring that could retract gum tissue from about the root of tooth which would make using the material as something obvious to one skilled in the Robertson art" (App. Br. 10). We are not persuaded. There is no evidence on this record to suggest that Mahoney's biodegradable materials could not be fashioned into a stretchable ring.

For the foregoing reasons we affirm the rejection of claim 14 under 35 U.S.C § 103(a) as unpatentable over the combination of Robertson and Mahoney.

CONCLUSION

In summary, we affirm the rejections of record.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

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Barnes & Thornburg
Suite 900
750 17th Street, NW
Washington DC 20006